

## REMARKS

In response to the Office Action, Applicant respectfully requests the Examiner to reconsider the above-captioned application in view of the foregoing the following comments.

### Discussion of Claim Rejections Under 35 U.S.C. § 103

Claim 57-58, 62-65, 67-68, and 83-85 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujita (WO00/20498, English equivalent: U.S Publication Number 2004/0029990) in view of Reid (U.S. Patent Number 2,859,197). Applicant respectfully submits that pending claims are allowable over the cited references, as discussed below.

### Discussion of Patentability of Independent Claim 57

Claim 57 recites dimethyl or methyl derivatives of the ester compounds as active component. On the other hand, as the Examiner acknowledged, Fujita does not explicitly disclose the use of the claimed methyl acrylate or methyl methacrylate to prepare vinyl polymer. In order to remedy the deficiency of Fujita, the Examiner cited Reid, which discloses a use of dimethyl adipate as a processing aid in vinylidene resin, and the Examiner further asserts that it would have been obvious to one of ordinary skill in the art to use the dimethyl adipate possessing aid of Reid with the composition of Fujita.

Fujita teaches a curable composition comprising a vinyl polymer having crosslinking silyl group. In contrast, Reid teaches the dimethyl and diethyl adipates as a processing additive to lower the processing temperature for hot melt extrusion. Reid further teaches the benefits of dimethyl adipate and diethyl adipate when used in connection with hot melt extrusion. In particular, in addition to lowering processing temperatures, they do not appreciably increase the tendency of orientated films or filaments to shrink at elevated temperatures. However, since there is no hot extrusion process involved in Fujita, one with ordinary skill in the art would not have any reason to combine the processing additives for hot melt extrusion of Reid in the curable composition of Fujita. The characteristics of the additives for lowering the processing temperature of a hot melt extrusion would not be beneficial for a curable composition that does not require heat. Accordingly, no *prima facie* showing of obviousness can be set forth by the combination of the cited references.

Moreover, in Applicant's specification, a delay in curing after storage due to a use of the crosslinkable silyl groups is recognized as a problem for curable composition and it is recited that

the use of methyl ester group unexpectedly suppresses this delay. See page 103, lines 17-18 of Applicant's specification. The vinylidene of Reid does not have the crosslinkable silyl group, consequently Reid does not teach suppressing the delay in curing after storage due to a use of the crosslinkable silyl groups. Fujita adds nothing which would lead one having ordinary skill in the art to expect that "suppressing the delay in curing after storage due to a use of the crosslinkable silyl groups." Rather, it was Applicant's discovery that the use of methyl ester group suppresses the delay. As set forth in Applicants' specification:

The cause of delayed curing after the storage is the decrease in reactivity of silyl group, which is attributed to the ester exchange of alkoxy group in crosslinking silyl group with alcohol generated by the reaction of ester of side chain in the acrylic polymer and an amino group of aminosilane. On the other hands, in the present invention, the addition of methyl ester compound leads to the generation of methanol, where the methyl ester compound functions as a trapping agent. The ester exchange of alkoxy group in crosslinking silyl group with methanol does not result in decrease in reactivity of silyl group because of the generation of methoxy group.

Therefore, Applicants' specification describes the criticality of the recited methyl ester groups, and provides further evidence of the patentability of the claims.

In addition, dimethyl adipate and diethyl asipate are listed together in column 1, line 15 as equivalent in Reid. However, as shown in the Table 1 of the declaration submitted on November, 15, 2010, there is clear difference between diethyl adipate and the claimed dimethyl adipate. Therefore, it would be no way for one having ordinary skill in the art to derive the claimed invention from only the cited reference. Applicant respectfully request withdrawal of the rejection.

#### Discussion of Patentability of Dependent Claims

The rest of the rejected claims depend Claim 57, and further define additional technical features of the present invention. In view of the patentability of Claim 57, and in further view of the additional technical features, Applicant respectfully submits that the dependent claims are patentable over the prior art.

#### Discussion of the Claim Rejections Under 35 U.S.C. § 103

Claim 82 has been rejected under 35 U.S.C. § 103 as being unpatentable over Fujita et al. in view of Reid (U.S. Patent No. 2,859,197) and Inoue et al. (U.S. Patent No. 6,255,392)

Applicant respectfully submits that pending claims are allowable over the cited references as discussed below.

As discussed above, the combination of Fujita and Reid fails to establish prima facie case of obviousness. Addition of Inoue does not cure the noted deficiencies, as, at least, Inoue silent about the mechanism of the delay in curing after storage.

Accordingly, even if combined, the cited references will not lead to a prima facie showing of obviousness with respect to Claim 57. Claim 87 directly depend from Claim 57. In view of the patentability of Claim 57, Applicant respectfully submits that Claim 57 is patentable over the prior art.

#### Discussion of Claim Rejections Under 35 U.S.C. § 103

Claim 57-58, 62-65, 67-68, 77-81, and 83-85 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujita (WO00/20498, English equivalent: U.S. Publication Number 2004/0029990) in view of Homan (U.S. Patent Number 4,585,836). Applicant respectfully submits that pending claims are allowable over the cited references, as discussed below.

#### Discussion of Patentability of Independent Claim 57

Claim 57 recites dimethyl or methyl derivatives of the ester compounds as active component. On the other hand, as the Examiner acknowledged, Fujita does not explicitly disclose the use of the claimed methyl acrylate or methyl methacrylate to prepare vinyl polymer. In order to remedy the deficiency of Fujita, the Examiner cited Homan, which discloses a use of esters of the formula  $C_wH_{2w+1}C(O)OC_nH_{2n+1}$ , where w=1-3 and n=1-6 as an ammonia scavenger compound and the Examiner further asserts that it would have been obvious to one of ordinary skill in the art to use the ammonia scavenger compound of Homan with the composition of Fujita.

As a silicon polymer of Homan does not have the crosslinkable silyl group, Homan does not teach suppressing the delay in curing after storage due to a use of the crosslinkable silyl groups and Homan's teaching is about improvement of lap shear stability using methyester for trapping ammonia generated upon generation of polydiorganosiloxane having triorganosilyl group at the end by reacting hexamethyldisilazane and diorganosiloxane having hydroxyl groups, the above arguments are equally applicable here.

Moreover, in rejecting the claim, the Examiner asserts that there is structure similarity between the claimed vinyl polymers crosslinked through the crosslinkable sily group at the terminus and the silicone polymers of Homan in that the siloxane groups are being condensed together. However, as set forth in MPEP 2144.09 VII, “*A prima facie case of obviousness based on structural similarity is rebuttable by proof that the claimed compounds possess unexpectedly advantageous or superior properties.* *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963).

The data of second Declaration submitted November 15, 2010 exhibits that the claimed compound in which the claimed methyl ester was used possess unexpectedly advantageous or superior properties, stable curability after storage, as compared to the Comparative Experimental Example 7 and New comparative examples 1-3 in which the same polymer along with DIDP (diisodecyl phthalate), DEA (dibutyl adipate), DBA (Dibutyl adipate), and DOP (dioctyl phthalate) are used respectively. The data in Table 1 of the declaration clearly shows that no deterioration in skinning time with the claimed ester compounds after storage, while 4 to 8.4 times more skinning time with the comparative examples in which longer chain alkyl esters are used. Similar data are also listed in Table 3 of Applicant’s specification. Accordingly, even if the Examiner had properly established a basis for creating a presumption of the obviousness, ample rebuttal evidence has been presented to overcome any such presumption. Applicant respectfully request withdrawal of the rejection.

#### **Discussion of the Claim Rejections Under 35 U.S.C. § 103**

Claim 82 has been rejected under 35 U.S.C. § 103 as being unpatentable over Fujita et al. in view of Homan (U.S. Patent Number 4,585,836) and Inoue et al. (U.S. Patent No. 6,255,392). Applicant respectfully submits that pending claims are allowable over the cited references as discussed below.

As discussed above, the combination of Fujita and Homan fails to establish *prima facie* case of obviousness. Addition of Inoue does not cure the noted deficiencies, as, at least, Inoue silent about the mechanism of the delay in curing after storage.

Accordingly, even if combined, the cited references will not lead to a *prima facie* showing of obviousness with respect to Claim 57. Claim 87 directly depend from Claim 57. In view of the patentability of Claim 57, Applicant respectfully submits that Claim 57 is patentable over the prior art.

### CONCLUSION

In the light of the applicant's foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

#### No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: April 13, 2011

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